







## Utah's ABC Practice

**Carmen Swanwick, S.E.**  
**UDOT Chief Structural Engineer**  
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## Presentation Outline



- Vision
  - Program direction
  - Implementation
  - Strategy and tools
  - Practice
  - Public outreach
  - Lessons learned
  - Evaluation

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## Vision

*UDOT Final Four Strategic Goals*




- Preserve infrastructure
- Optimize mobility
- Zero fatalities (improve safety)
- Strengthen economy

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## Vision

*Program Direction*




- ABC Goals
  - Relentlessly pursue reducing traffic congestion during construction
  - Add value by furthering Department goals
  - Improve worker safety and safety to the traveling public
  - Improve quality

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## Vision

### ABC Components




Foundation & Wall Elements	Rapid Embankment Construction	Prefabricated Bridge Elements & Systems	Structural Placement Methods	Fast Track Contracting
Continuous Flight Auger Piles Geosynthetic Reinforced Soil (GRS) Integrated Bridge System	EPS Geofoam	Prefabricated Elements • Superstructure • Substructure Prefabricated Systems • Superstructure • Substructure • Total Bridge	Self-propelled Modular Transporters (SMMTs) Longitudinal Launching Horizontal Sliding or Skidding Other Heavy Lifting Equipment & Methods Conventional Lifting Equipment	Innovative Contracting • Best Value • CMGC Method • Design-Build • A+B • A+B+C • Warranties

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## Vision

### Benefits




- Significant advantages
  - Reduces on-site construction time
  - Minimizes traffic disruption – months to days
  - Reduces environmental impact
  - Improves work zone and worker safety
  - Provides positive cost-benefit ratios when user costs are considered
  - Improves product quality – controlled environment, cure times, easier access, etc.

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## Implementation



- Research
- Market internally and externally
- Perform scanning tours
- Get involved nationally
- Conduct pilot project
- Identify a program of projects

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## Implementation



- Conduct workshops
- Standardize ABC applications
- Provide training
- Obtain feedback and share lessons learned




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## Implementation

### *Pilot Project*




- Evaluate project risks
- Define scope, schedule and budget
- Identify procurement method

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## Implementation


### *Pilot Project*



*PBES; Hoytsville Road over I-80 (Wanship)*




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## Implementation

### *Program of Projects*



- Prescriptive projects – gain experience
  - Design-Bid-Build
  - Construction Manager General Contractor (CMGC)
- Performance projects – innovations led by contractor
  - Design-Build

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## Strategy and Tools



- Mainstream ABC
  - Typical detail development
  - Policies, procedures and specifications
  - Training and technical support


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## Mainstream ABC


*Typical Detail Development*



- Bridge Components
  - Precast deck and approach slab panels
  - Girders
  - Substructure
    - Abutments, culverts and walls
    - Bent cap, columns and footings




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## Mainstream ABC

*Policies, Procedures and Specifications*




- ABC decision making process
  - Approach
  - Measures
  - Procedure
- ABC manuals and specifications

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## Mainstream ABC

*Policies, Procedures and Specifications*



- ABC manuals and specifications
  - Manuals written for precast elements
    - General information
    - Design and detailing guidance
    - Directions on use of typical details
    - Fabrication and handling guidance
    - Checklists
  - Contract specifications for all elements
    - M & P requirements defined
    - A & D summaries provided
    - Special provisions developed

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## Mainstream ABC


*Training and Technical Support*



- Project support
- Training
  - Designers
  - Contractors
  - Inspectors


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## Practice


*Utilize Innovative Elements and Methods*



*Modular Construction; I-215 over 3670 South*





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## Practice


*Utilize Innovative Elements and Methods*



*Structure Placement Methods*





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## Practice


*Utilize Innovative Elements and Methods*



### *Accelerated Geotechnical; Geofoam Embankment*




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## Practice

*I-80; Lambs Canyon; SPMT; Design-Build*

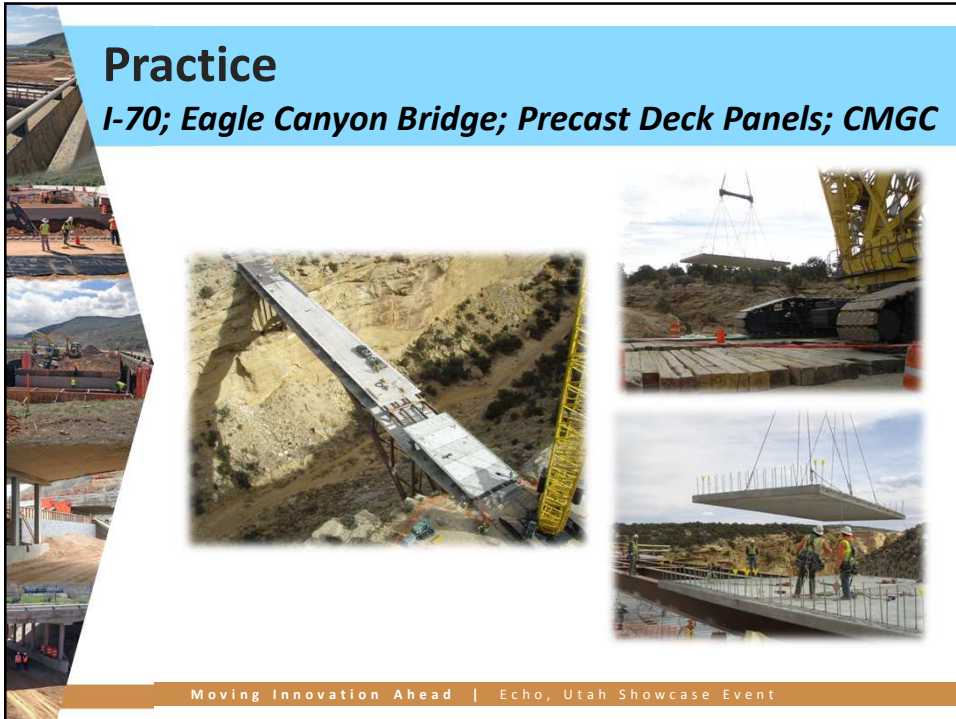


### *I-80; Lambs Canyon; SPMT; Design-Build*



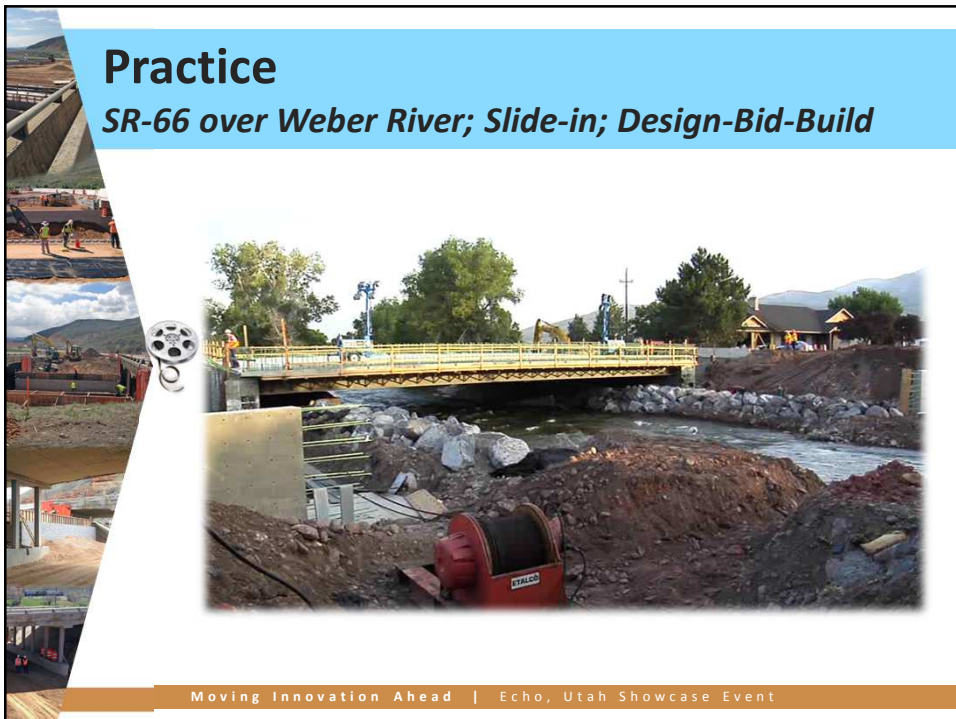
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**Practice**  
*I-70; Eagle Canyon Bridge; Precast Deck Panels; CMGC*



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**Practice**  
*SR-66 over Weber River; Slide-in; Design-Bid-Build*



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## Practice

*I-80 over 2300 East; Slide-in; Design-Build*



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## Public Outreach

*Communicate with Industry and Public*




- Continue industry communication
- Implement marketing and messaging plan
- Prepare visual animations



354 Feet Long | Two Spans | One Big Night




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## Public Outreach

*Communicate with Industry and Public*




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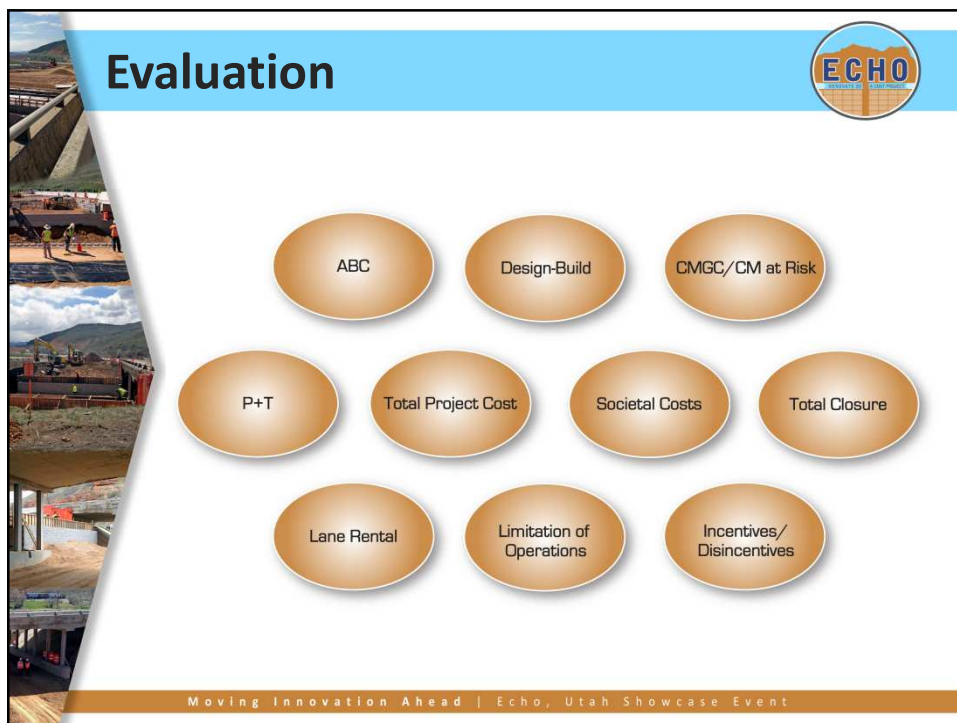
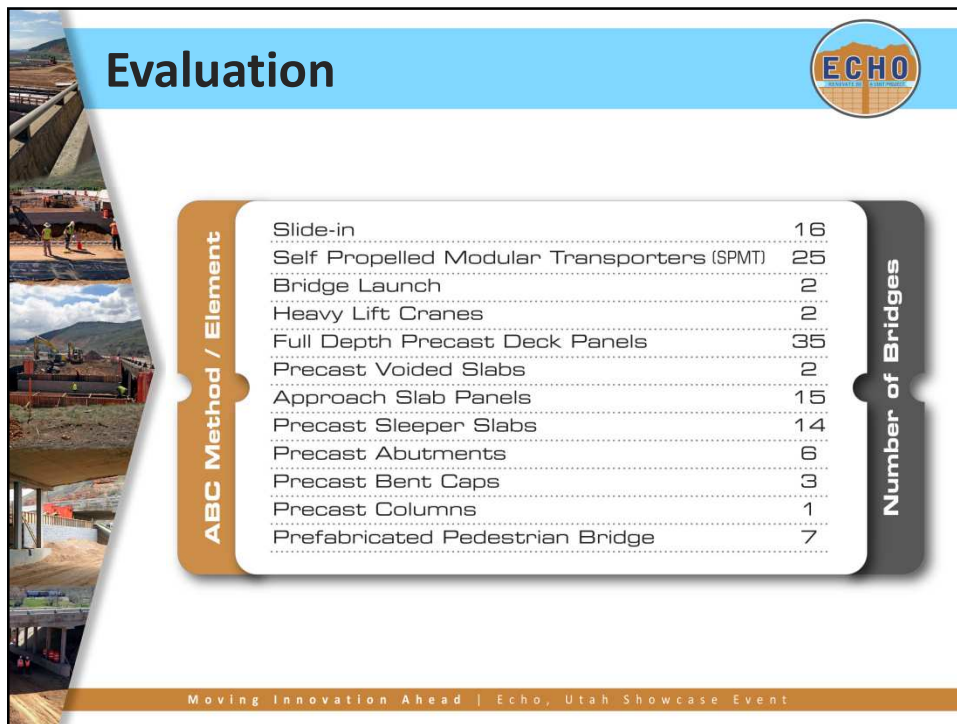
## Lessons Learned

*Process*

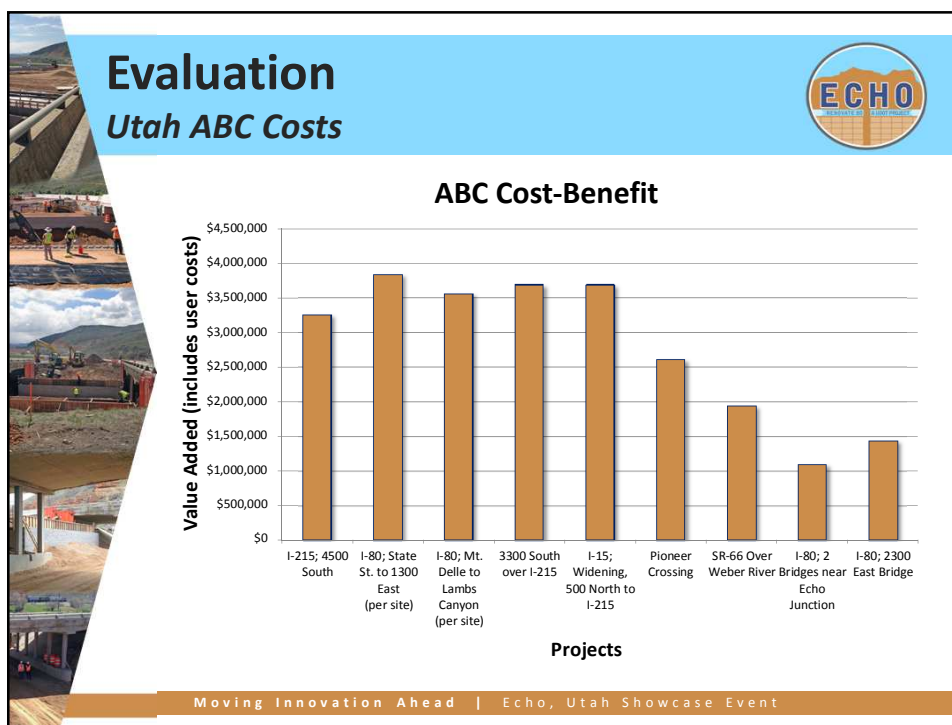
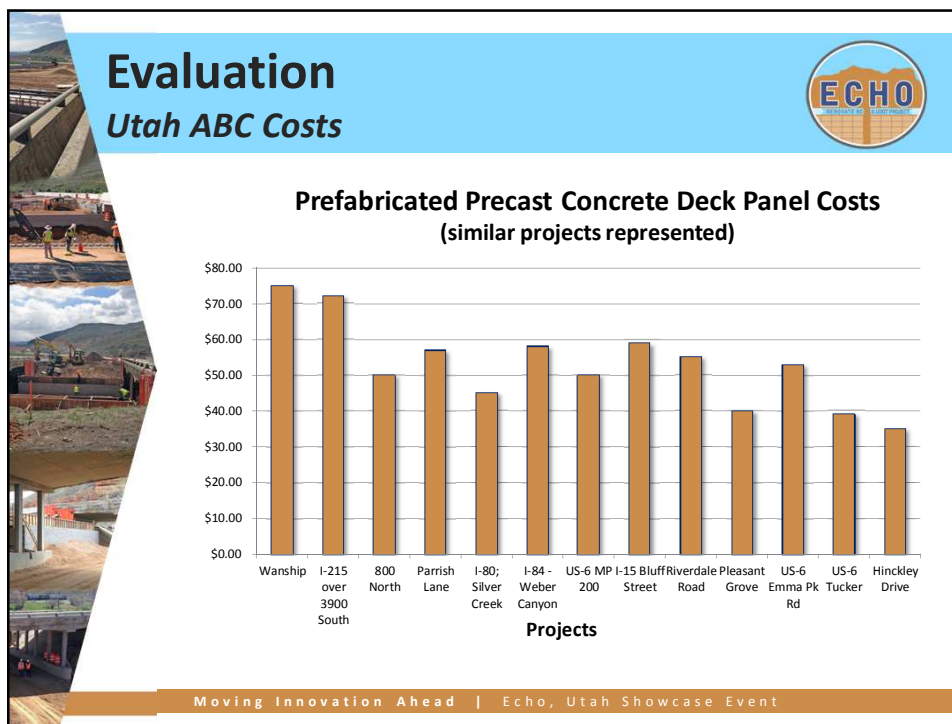


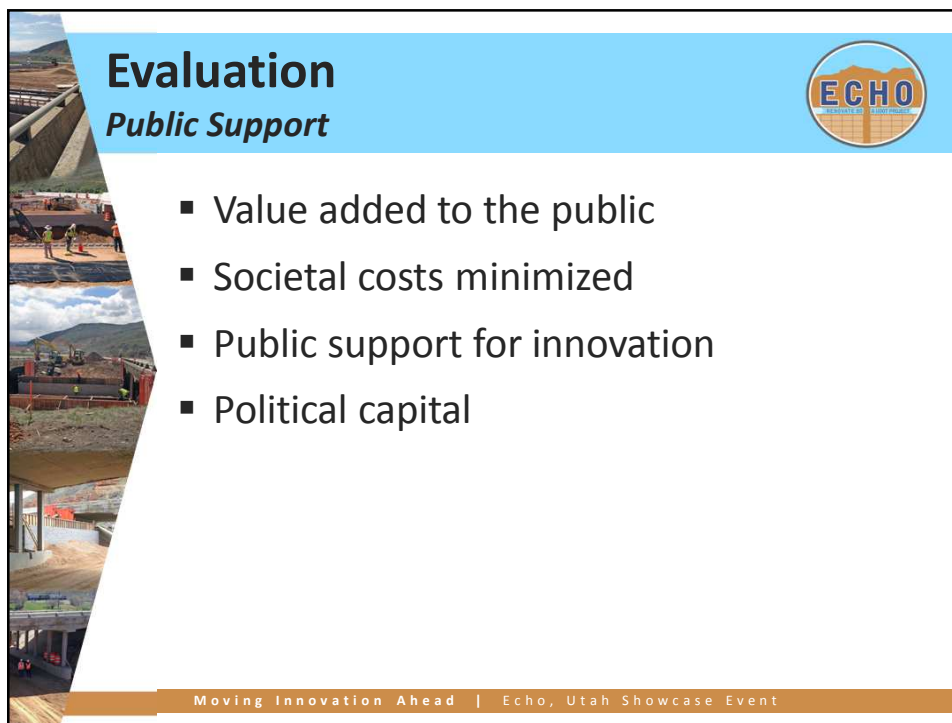
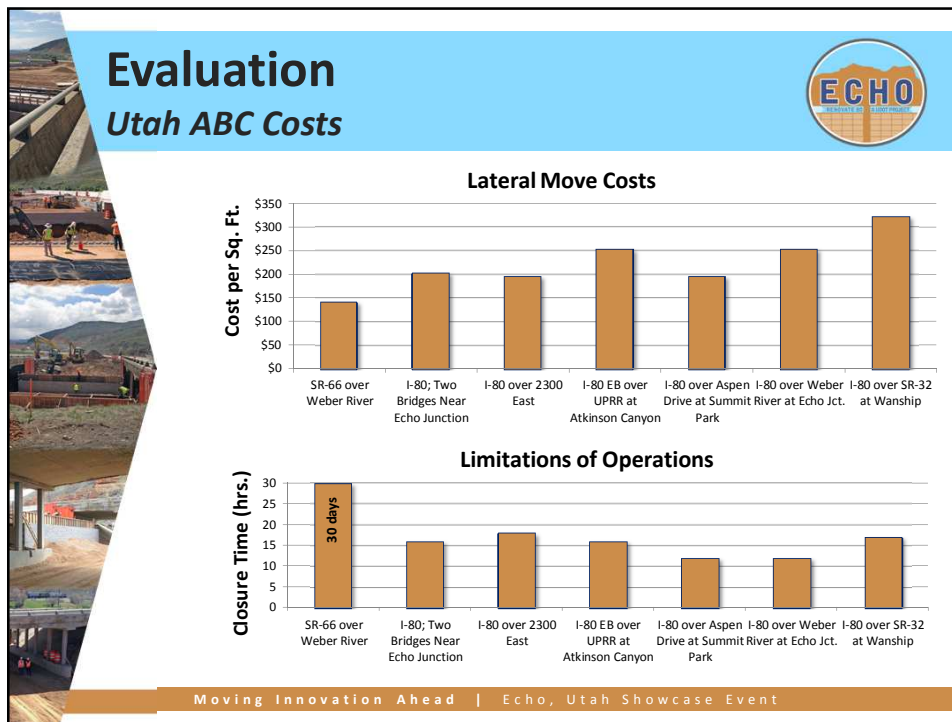
- Perform program review
- Find program deficiencies
- Repair deficiencies
- Review design decisions
- Measure design assumptions vs. reality

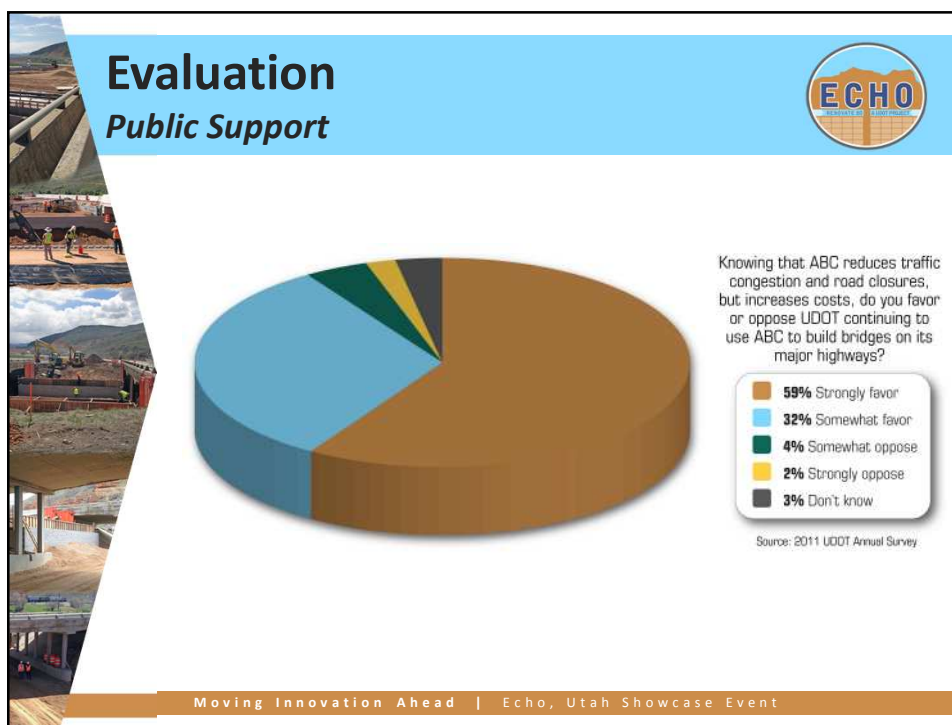
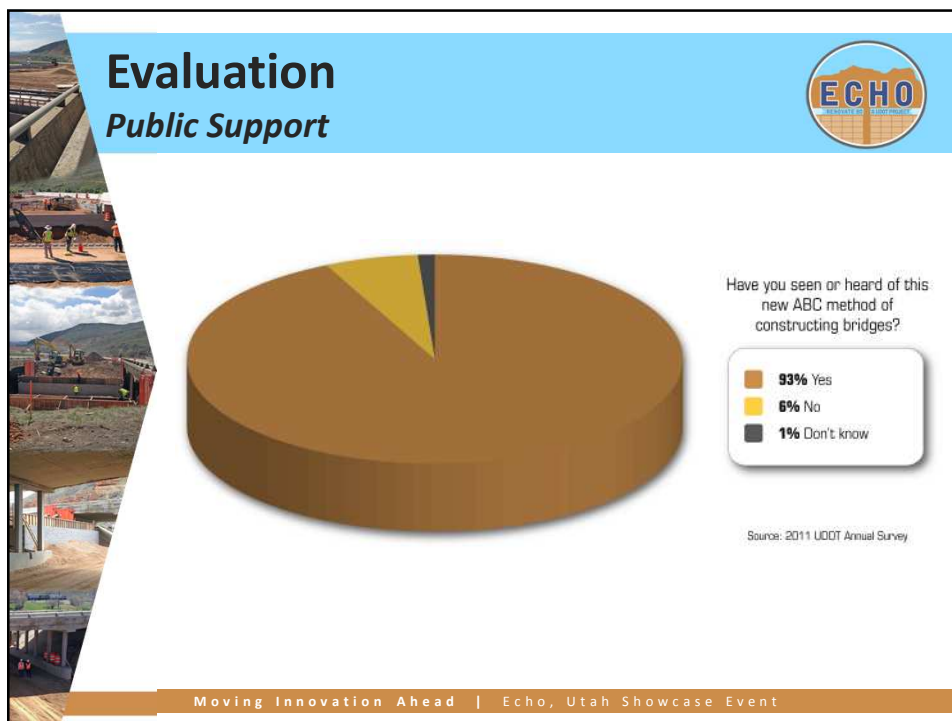
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# Evaluation

## Realization







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# Thank you

